

WHAT IS CLAIMED IS:

1. A light deflector for deflecting light to switch a plurality of cross-connected optical fibers for optical communication, comprising:

a mirror for deflecting light input through the plurality of cross-connected optical fibers by sloping at the center thereof;

a supporting member for holding the mirror in the same plane, wherein the supporting member is connected with the mirror at least one edge thereof;

a frame portion for holding another edge of the supporting member; and

a driving member incorporated in the supporting member for inclining the supporting member by transforming convex-concave to make the mirror sloping to desirable direction.

2. The light deflector as claimed in claim 1, wherein the driving member is placed in each of four quadrant areas divided by two lines orthogonal to each other, which at least cross the center of the mirror and a connecting portion of the mirror with the supporting member.

3. The light deflector as claimed in claim 1, wherein a single piece of the supporting member is placed along the outer frame of the mirror in 360 degrees.

4. The light deflector as claimed in claim 1, wherein two pieces of the supporting member are respectively placed along the outer frame of the mirror in 180 degrees.

5. The light deflector as claimed in claim 1, wherein a plurality of supporting members having a different radius of concentric circle of the mirror, is connected with each other by an edge contiguous to each supporting member to form a single piece.

6. The light deflector as claimed in claim 1, wherein the driving member placed symmetric with respect to the center of the mirror is controlled by supplying with an impressed voltage of zero and over values having inverted polarity compared to initial condition.

7. The light deflector as claimed in claim 6, wherein the plurality of driving members placed in the same area symmetric with respect to the center of the mirror is further controlled by supplying with an impressed voltage of zero and over values having inverted polarity compared to initial condition.

8. A method for driving a light deflector for use in switching a plurality of cross-connected optical fibers for optical communication, comprising:

- a mirror for deflecting light input through the plurality of cross-connected optical fibers by sloping at the center thereof;

- a supporting member for holding the mirror in the same plane, wherein the supporting member is connected with the mirror at least one edge thereof;

- a frame portion for holding another edge of the supporting member; and

- a driving member incorporated in the supporting member for inclining the supporting member by transforming convex-concave to make the mirror sloping

to desirable direction,

the method comprising steps of:

holding the mirror for light deflection by the supporting member being connected with the mirror at least one edge thereof and the other edge with a frame portion;

driving the driving member incorporated in the supporting member by supplying an impressed voltage to make the driving member transforming convex-concave to slope the mirror, wherein the impressed voltage is having zero and over values of inverted polarity compared to initial condition; and

deflecting an input light through the optical fiber by the sloping of the mirror to a desirable direction.

9. The method for driving the light deflector as claimed in claim 8, wherein the plurality of driving members placed in the same area symmetric with respect to the center of the mirror is further controlled by supplying with an impressed voltage of zero and over values having inverted polarity compared to initial condition.